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Taxonomic notes on some Central Asian philodromid species (Aranei Philodromidae)

Таксономические заметки о филодромидах Средней Азии (Aranei Philodromidae)

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КЛЮЧЕВЫЕ СЛОВА: пауки, *Artanes*, *Philodromus*, *Thanatus*, таксономия, распространение, Центральная Азия.

ABSTRACT: The paper presents new data on the taxonomy and distribution of 7 species from the genera *Artanes*, *Philodromus* and *Thanatus*. Two new species, *Artanes marusiki* sp.n. from Tuva and Khakassia, and *Thanatus dahurianus* sp.n. from SE Transbaikalia, are described. *Philodromus davidi* Schenkel, 1963 is newly synonymized with *Artanes spinitarsis* (Simon, 1895), comb.n. Two species, *Philodromus soderbomi* Schenkel, 1936 and *Ph. ravus* Schenkel, 1963, are recognized as nomina dubia. *Philodromus emarginatus* var. *orientalis* Schenkel, 1963 is elevated to full species: *Ph. orientalis* Schenkel, 1963, stat.n.

РЕЗЮМЕ. Статья посвящена таксономии и распространению 7 видов из родов *Artanes*, *Philodromus* и *Thanatus*. Описаны два новых вида: *Artanes marusiki* sp.n. из Тувы и Хакасии, и *Thanatus dahurianus* sp.n. из ЮВ Забайкалья. *Philodromus davidi* Schenkel, 1965 впервые синонимизован с *Artanes spinitarsis* (Simon, 1895) comb.n. Выяснено, что два вида, *Philodromus soderbomi* Schenkel, 1936 и *Ph. ravus* Schenkel, 1963, являются nomina dubia. Таксономический ранг *Philodromus emarginatus* var. *orientalis* Schenkel, 1963 повышен до ранга самостоятельного вида: *Ph. orientalis* Schenkel, 1963, stat.n.

Introduction

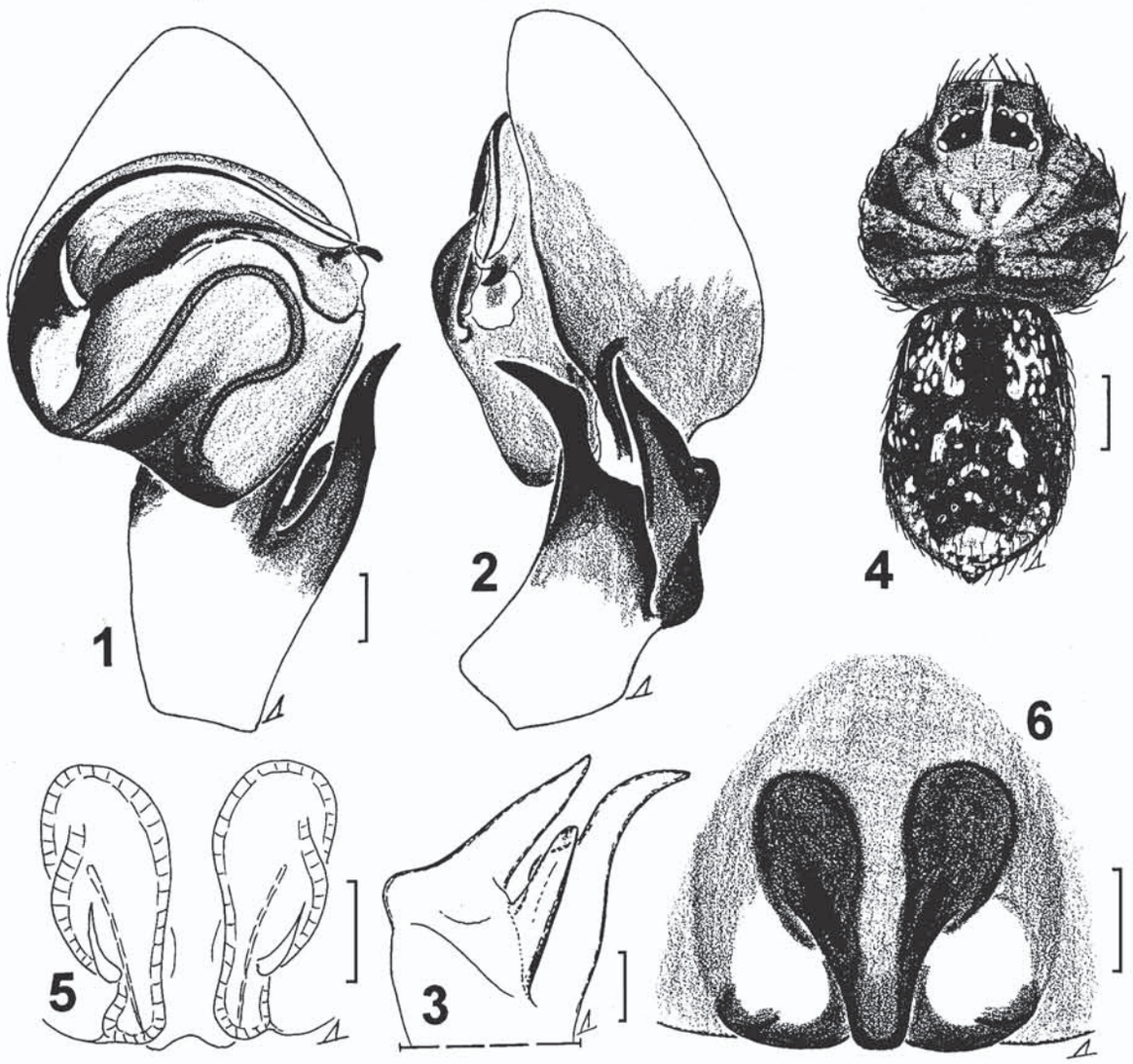
Schenkel [1936, 1963] was one of the most prominent contributors to the knowledge of Central Asian spiders. Among other things, he described or recorded eight philodromid species from this region, mainly from China (Inner Mongolia, Kansu and Shanxi). However, almost all these species are still poorly-known and have since been neglected, with two exceptions: *Philodromus mongolicus* Schenkel, 1936 and *Thanatus albomaculatus* Kulczyński, 1908. The former species was originally described from Inner Mongolia, later reported from Xinjiang, China [Hu & Wu, 1989]. After re-examining the holotype of *Philodromus mongolicus*, Logunov [1996] assigned this species to the genus *Thanatus*. Besides this, Schenkel's specimens of *Th. albomaculatus* have been restudied and reported under the name of *Th. coloradensis* Keyserling, 1880 by Logunov [1996].

The main objectives of the present paper are, (1) to restudy and adequately redescribe all Central Asian philodromid species described by Schenkel in 1936 and 1963; and (2) to describe two new philodromid species recently collected from South Siberia.

Material and methods

The work is based both on material recently taken in the mountains of South Siberia and on the Central Asian philodromid collections earlier studied by E. Schenkel and currently deposited in the Muséum National d'Histoire Naturelle in Paris, France (MNHN) and the Swedish Museum of Natural History in Stockholm, Sweden (SMNH). Specimens of both new species described herein have been shared between the following three museum collections: ISE — the Zoological Museum of the Institute for Systematics and Ecology of Animals, Novosibirsk, Russia; ZMMU — the Zoological Museum of the Moscow State University, Moscow, Russia; ZMTU — the Zoological Museum of the University of Turku, Turku, Finland.

Abbreviation used in the text and figures: AME — anterior medial eyes, ALE — anterior lateral eyes, d. — dorsally, Fm — femur, L — length, MOA — median ocular area, Mt — metatarsus, PME — posterior medial eyes, PLE — posterior lateral eyes,



Figs 1-6. Genitalia of *Artanes marusiki* sp.n., paratypes from Tuva: 1 — ♂ palp, ventral view; 2 — ditto, lateral view; 3 — tibial apophysis, dorsolateral view; 4 — ♂ body colouration; 5 — spermathecae; 6 — epigyne. Scales: 0.1 mm (1-3, 5, 6) and 0.5 mm (4).

Рис. 1-6. Гениталии *Artanes marusiki* sp.n., паратипы из Тувы: 1 — пальпа♂, вид снизу; 2 — то же, вид сбоку; 3 — голенный отросток, дорсо-латеральный вид; 4 — окраска брюшка ♂; 5 — сперматека; 6 — эпигина. Масштаб: 0,1 мм (1-3, 5, 6) и 0,5 мм (4).

pr. — prolaterally, Pt — patella, rt. — retrolaterally, v. — ventrally, WA — wide anteriorly, WP — wide posteriorly.

For the leg spination pattern and measurements the system adopted is that used by Ono [1988]. In the format of the description, I follow Logunov [1996]. All measurements are in mm.

Synopsis of species

Artanes marusiki **sp.n.**
Figs 1-6.

MATERIAL. Holotype: 1 ♂ (ISE), S-Siberia, Tuva, 13-15 km N of Khandagaity, Kham-Dagh River, 1000-1150 m a.s.l., 25-27.07.1993, D.V. Logunov.

Paratypes: TUVA: 3 ♂♂, 7 ♀♀ (ISE), 1 ♂, 1 ♀ (ZMMU), together with holotype; 3♀♀ (ISE), 3-5 km E of Khol'-Oozhu, East Tannu-Ola Mt. Range, Aryskannyg-Khem River Canyon, 1250-1350 m a.s.l., 16-18.06.1995, Y.M. Marusik; 1 ♀ (ZMMU), 25-30 km W of Erzin, Ontchalaan Mt. Range, 50°16'N, 94°54'E, 1150-1250 m a.s.l., 7-10.06.1995, Y.M. Marusik; 1♀ (ZMMU), Ovyurski Distr., ca. 10 km W of Ak-Tsyraa, Irbitei River Valley, 50°44'N, 93°08'E, 1000-1050 m a.s.l., 13-16.06.1995, D.V. Logunov; 1 ♂ (ZMTU), Sanghelen Mt. Range, middle reaches of Dzhen-Aryk River, 50°31'N, 95°28'E, 14-16.07.1996, Y.M. Marusik. — KHAKASSIA: 2 ♂♂, 1 ♀ (ISE), Askiz Area, ca. 8 km E of Biriktchul', 1100-1200 m a.s.l., 16-18.07.1990, D.V. Logunov.

DIAGNOSIS. The new species is most closely related to *A. blanckei* Wunderlich, 1995 described recently from Sardinia, Italy [Wunderlich, 1995: Figs. 48, 49], but both

can be distinguished by some minor details of male palp structure.

DESCRIPTION. MALE (holotype). Measurements. Carapace 1.70 long and 1.83 wide. Abdomen 2.03 long and 1.35 wide. Distances between eyes: AME-AME 0.11, AME-ALE 0.04, PME-PME 0.20, PME-PLE 0.14. Median ocular area: MOA-WA 0.26, MOA-WP 0.34, MOA-L 0.35. Clypeal height 0.20. Cheliceral length 0.85. Length of leg segments:

	femur	patella	tibia	metatarsus	tarsus
I	2.70	1.00	2.55	2.20	1.25
II	3.65	1.25	3.25	2.85	1.60
III	3.10	1.05	2.65	2.35	1.25
IV	2.85	0.95	2.55	2.20	1.20

Spination of leg I: Fm d.1-1-0-1, pr.1-1-0-0; Tib. v.2-2-2-2-2-2ap; Mt v.2-2-2. Colouration. Carapace yellow with brownish radial stripes and a dark brown spot between ALE, PME and PLE (Fig. 4). Sternum, maxillae and chelicerae yellow. Labium brownish. Entire body and legs sparsely covered with black hairs. In additina, carapace and dorsum covered with protruded thick black hairs. Abdomen: dorsum brownish-greyish with yellow-white colour markings as in Fig. 4; venter yellow. Book-lungs yellow. Spinnerets brownish-greyish. All legs yellow but femora, patellae and tibiae with dorsal brownish semirings and spots. Palpal structure as in Figs 1-3.

FEMALE (paratype collected together with holotype). Measurements. Carapace 2.03 long and 2.30 wide. Abdomen 3.03 long and 2.35 wide. Distances between eyes: AME-AME 0.18, AME-ALE 0.04, PME-PME 0.30, PME-PLE 0.23. Median ocular area: MOA-WA 0.33, MOA-WP 0.44, MOA-L 0.35. Clypeal height 0.24. Cheliceral length 0.64. Length of leg segments:

	femur	patella	tibia	metatarsus	tarsus
I	2.90	1.25	2.53	1.90	1.15
II	3.80	1.45	3.15	2.35	1.30
III	3.40	1.25	2.60	2.20	1.30
IV	3.25	1.05	2.55	2.05	1.10

Spination of leg I: Fm d.1-1-0-1, pr.1-1-0-0; Tib. v.2-2-2-2-2-2ap; Mt pr.1-1, v.2-2-2. Colouration as described for male, but lighter. Epigyne and spermathecae as in Figs 5, 6.

DISTRIBUTION. S-Siberia: Tuva and Khakassia.

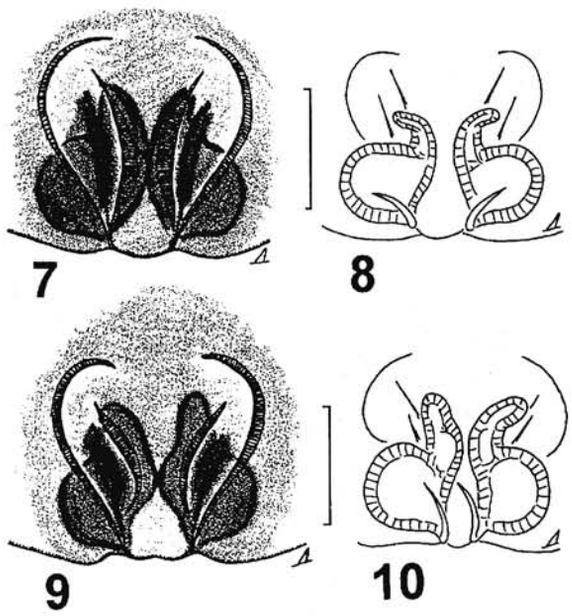
HABITAT. The species is a typical dweller of stony cliffs and outcrops.

ETYMOLOGY. The species is named after my colleque and friend, Dr. Yuri M. Marusik, who has collected a part of the type series of this new species.

Artanes spinitarsis (Simon, 1895), **comb.n.**

Philodromus davidi Schenkel, 1963: 245-247, fig. 137 (♀ holotype, claimed to have been deposited in MNHN, not examined), **syn.n.**

NOTES. I have been unable to re-examine the holotype of *Philodromus davidi*, as it has not been located in the collection of MNHN (C. Rollard, personal communication), despite the fact that all other philodromid species described/studied by Schenkel [1963] in the same work are deposited in MNHN. However, as evident from Schenkel's original figure [Schenkel, 1963: fig. 137], *Ph. davidi* is beyond any doubt a junior synonym of *Artanes spinitarsis*, a species repeatedly recorded in China, Korea, Japan and the Russian Far East [Chikuni, 1989: fig. 7; Hu & Wu, 1989: fig. 256; Chen & Zhang, 1991: figs 297-298; Logunov, 1992: fig. 3; etc.], always sub *Philodromus spinitarsis*.



Figs 7-10. ♀ genitalia of *Philodromus lanchowensis* from Kansu, China (7, 8 — holotype): 7, 8 — epigyne; 9, 10 — spermathecae. Scale: 0.25 mm.

Рис. 7-10. Гениталии ♀ *Philodromus lanchowensis* из Китая, Ганьсу, (7, 8 — голотип): 7, 8 — эпигина; 9, 10 — сперматека. Масштаб: 0,25 мм.

Recently, Wunderlich [1995] has shown that the genus *Artanes* (the former *poecilus* species group of *Philodromus*) merits revalidation. I agree completely with this opinion, so I not only assign a new species to *Artanes* (see above) but also propose a new combination for *Philodromus spinitarsis*.

Philodromus lanchowensis Schenkel, 1936
Figs 7-10.

Philodromus lanchowensis Schenkel, 1936: 280-281, fig. 94 (♀ holotype from SMNH, re-examined).

Ph. l.: Schenkel, 1963: 242 (♀ from MNHN, examined).

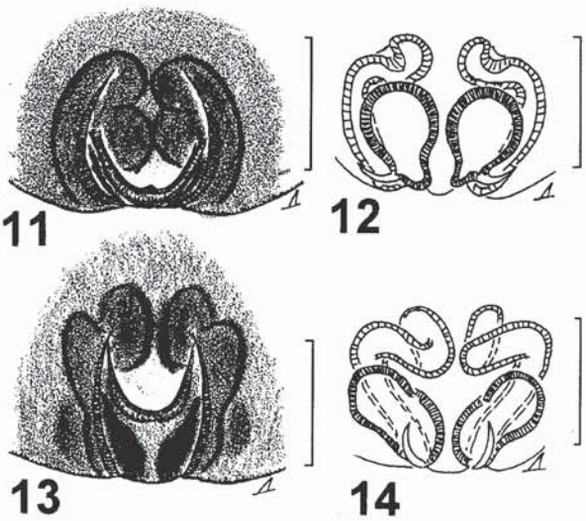
MATERIAL. CHINA: 1 ♀ (SMNH, holotype), "Nord-Kansu, Lanchow, Hauptstadt von Kansu, No 34, 27.04.1928, G. Söderbom"; 1 ♀ (MNHN), "Lan-wa-sja (Lowacheng) am Sining ho, Kansu, 19.04.1885, G.N. Potanin".

DIAGNOSIS. The structure of the female genitalia differs from that of all European and Asian *Philodromus* species currently known to me (Figs 7-10).

DESCRIPTION. FEMALE (from MNHN). Measurements. Carapace 2.88 long and 2.63 wide. Abdomen 4.09 long and 3.13 wide. Distances between eyes: AME-AME 0.19, AME-ALE 0.09, PME-PME 0.33, PME-PLE 0.20. Median ocular area: MOA-WA 0.43, MOA-WP 0.54, MOA-L 0.51. Clypeal height 0.39. Cheliceral length 1.10. Length of leg segments:

	femur	patella	tibia	metatarsus	tarsus
I	3.65	1.50	3.40	2.80	1.80
II	4.45	1.60	3.90	3.05	2.05
III	3.17	1.30	3.05	2.35	1.45
IV	4.00	1.30	3.00	2.45	1.50

Spination of leg I: Fm d.0-1-1, pr. and rt.1-1-1; Tib. d., pr. and rt.1-1-1, v 2-2-2ap; Mt pr. and rt.1-1-1, v.2-



Figs 11-14. ♀ genitalia of *Philodromus orientalis* (11, 12, holotype from Shanxi, China) and *Philodromus emarginatus* (13, 14, ♀ from the Novosibirsk Area): 11, 12 — epigyne; 13, 14 — spermathecae. Scale: 0.25 mm.

Рис. 11-14. Гениталии ♀ *Philodromus orientalis* (11, 12, голотип из Китая, Шаньси) и *Philodromus emarginatus* (13, 14, ♀ из Новосибирской области): 11, 12 — эпигина; 13, 14 — сперматека. Масштаб: 0,25 мм.

2-2. Colouration. Both studied females have strongly faded up to monochromous brownish-yellow. So their colouration ought to be redescribed when new specimen are collected. Epigyne and spermathecae as in Figs 7-10.

DISTRIBUTION. China: Kansu.

Philodromus orientalis Schenkel, 1963, **stat.n.**
Figs 11, 12.

Philodromus emarginatus var. *orientalis* Schenkel, 1963: 243-244, fig. 135 (♀ holotype from MNHN, re-examined).

MATERIAL. CHINA: 1 ♀ (MNHN, holotype), "Yen-mönn Pass, Schansi, 17-19.06.1884, G.N. Potanin".

Comparative material of *Ph. emarginatus* (Schrank, 1803) (Figs 13, 14). KAZAKHSTAN: 2♂♂, 1♀ (ISE), North-Kazakhstan Area, Sokolovo Distr., Bolshaya Malyshka, 11.06.1986, D.V. Logunov. — RUSSIA: 2 ♀♀ (ISE), Novosibirsk Area, Kargat Distr., -15 km NE of Verkh-Kargat, Makarievskiy, 22.07.1988, D.V. Logunov.

DIAGNOSIS. *Ph. orientalis* is most closely related to *Ph. emarginatus*, but it can be separated by the narower "pocket" of the epigyne and the shape of the receptacles (cf. Figs 11, 12 and 13, 14).

DESCRIPTION. MALE (holotype). Measurements. Carapace 2.15 long and 2.23 wide. Abdomen 4.30 long and 2.98 wide. Distances between eyes: AME-AME 0.26, AME-ALE 0.08, PME-PME 0.40, PME-PLE 0.29. Median ocular area: MOA-WA 0.45, MOA-WP 0.53, MOA-L 0.43. Clypeal height 0.43. Cheliceral length 0.88. Length of leg segments:

	femur	patella	tibia	metatarsus	tarsus
I	2.23	0.98	1.75	1.60	0.90
II	2.58	1.10	2.05	1.88	absent
III	2.10	0.88	1.63	1.43	0.83
IV	2.10	0.85	1.50	1.45	0.80

Spination of leg I: Fm d. and pr.1-1-1; Tib d.1-1-2, pr.1-1-0, rt.1-1-1, v.1-1; Mt pr. and rt.1-1-1, v.2-2-0. Colouration. Holotype is strongly faded. Carapace yellow with brownish veins [s. Schenkel, 1963: fig. 135a]. Sternum, maxillae and labium yellow. Chelicerae brownish. Abdomen yellow, with dorsal colour markings of stripes and patches. Book-lung yellow. Spinnerets brownish-yellowish. All legs yellowish-brownish. Epigyne and spermathecae as in Figs. 11, 12.

DISTRIBUTION. The type locality only.

Thanatus dahurianus **sp.n.**
Figs. 17-21.

MATERIAL. Holotype: 1♂ (ISE), E-Siberia, SE Transbaikalia, Dahurian Reservation, S part of channel between lakes Zun-Torei and Barun-Torei, steppe, 6.06.1995, I. Lyubtchanskiy & V. Smirnova.

Paratype: 1♀ (ISE), same locality, N shore of Lake Zun-Torei, Mt. Kuku-Khodan, 8-13.06.1995, R.Y. Dudko.

DIAGNOSIS. This species is most closely related to two N-Asian forms, *T. striatus* C.L. Koch, 1845 and *T. lanatus* Logunov, 1996, but it differs in having the widest tegular apophysis in the male (cf. Figs. 15, 16 and 17). Females of *T. dahurianus* are poorly distinguished at best, especially from those of *T. lanatus*, because both species possess a wide area between the epigynal suture and the lateral guide pocket (cf. Fig. 20 and Logunov, 1997: figs. 212, 214).

DESCRIPTION. MALE (holotype). Measurements. Carapace 1.30 long and 1.20 wide. Abdomen 1.55 long and 0.88 wide. Distances between eyes: AME-AME 0.06, AME-ALE 0.04, PME-PME 0.17, PME-PLE 0.16. Median ocular area: MOA-WA 0.21, MOA-WP 0.30, MOA-L 0.27. Clypeal height 0.18. Cheliceral length 0.43. Length of leg segments:

	femur	patella	tibia	metatarsus	tarsus
I	1.26	0.50	1.03	0.93	0.65
II	1.38	0.50	1.15	0.90	0.60
III	1.15	0.48	0.85	0.85	0.55
IV	1.40	0.53	1.08	1.05	0.65

Spination of leg I: Fm d 0-0-1-1, pr 0-1-1-1; Tib pr and rt 1-1, v 2-2; Mt v 2-2-0. Colouration. Carapace yellowish-brownish with dark radial veins and a pair of wide longitudinal yellow spots. Sternum, maxillae and chelicerae yellow, tinged with brown. Labium brownish. Abdomen sand-coloured. Dorsum with a long brown cardial spot, with colour markings as a whole being like in *T. lanatus* [see Logunov, 1997: fig. 216]. Book-lung and spinnerets yellow, tinged with brown. All legs yellow. Palpal structure as in Figs. 17-19.

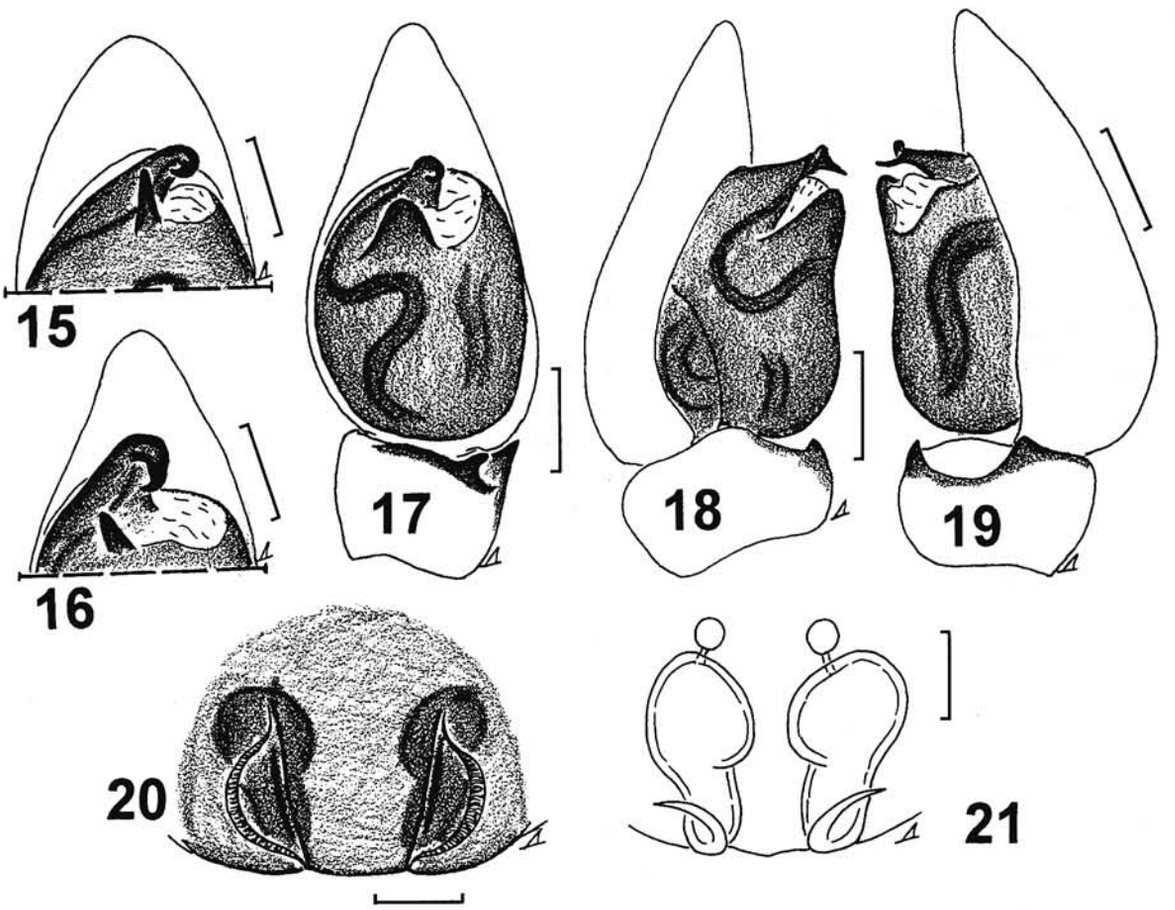
FEMALE (paratype). Measurements. Carapace 1.75 long and 1.53 wide. Abdomen 3.25 long and 1.88 wide. Distances between eyes: AME-AME 0.14, AME-ALE 0.05, PME-PME 0.24, PME-PLE 0.23. Median ocular area: MOA-WA 0.29, MOA-WP 0.40, MOA-L 0.40. Clypeal height 0.26. Cheliceral length 0.68. Length of leg segments:

	femur	patella	tibia	metatarsus	tarsus
I	1.50	0.73	1.18	0.98	0.65
II			absent		
III	1.35	0.98	0.68	0.88	0.60
IV	1.68	0.65	1.20	1.10	0.63

Spination of leg I uncertain, as the specimen studied is damaged. Colouration as described for male, but lighter and differing as follows: yellow spots on carapace like a pair of longitudinal stripes; sternum yellow but densely dotted with brown. Epigyne and spermathecae as in Figs 20, 21.

DISTRIBUTION. The type locality only.

ETYMOLOGY. The species is named after the terra typica, Dahuria (SE Transbaikalia).



Figs 15-21. Genitalia of *Thanatus striatus* from near Chelyabinsk, Urals (15), *Thanatus lanatus* from near Khabarovsk, Russian Far East (16) and *Thanatus dahurianus* from Dahuria (♂ holotype, ♀ paratype) (17-21): 15, 16 — ♂ palp, apical division, ventral view; 17 — ♂ palp, ventral view; 18 — ditto, median view; 19 — ditto, lateral view; 20 — epigyne; 21 — spermathecae. Scale: 0.1 mm.

Рис. 15-21. Гениталии *Thanatus striatus* из окр. Челябинска (15), *Thanatus lanatus* из окр. Хабаровска (16) и *Thanatus dahurianus* из Даурии (♂ голотип, ♀ паратип) (17-21): 15, 16 — пальпа ♂, апикальный отдел, вид снизу; 17 — пальпа ♂, вид снизу; 18 — то же, медиально; 19 — то же, латерально; 20 — эпигина; 21 — сперматека. Масштаб: 0,1 мм.

Nomina dubia

Philodromus soderbomi Schenkel, 1936

Philodromus soderbomi Schenkel, 1936: 282-282, fig. 95 (♀ holotype from SMNH, examined).

MATERIAL CHINA: 1♀ subadult (SMNH, holotype), "Mansuil (or Manmie), 20.08.1928".

NOTES. The type's label (see above) does not correspond to the type locality of the species as given by Schenkel [1936] in the text: "Nord-Kansu, Maomo, nordlich Suchow, 20.05.1928, G. Søderbom". This means that either Schenkel described his *Ph. soderbomi* from another specimen or the locality was misspelt/muddled. Yet the specimen of *Ph. soderbomi* deposited in SMNH and labelled as the "typus" is actually a subadult female, without developed genitalia. So this species is bound to be considered as a nomen dubium until additional samples, especially adult topotypes, are recovered.

Philodromus ravus Schenkel, 1963

Philodromus ravus Schenkel, 1963: 244-245, fig. 136 (juv. ♀ holotype from MNHN, examined).

MATERIAL. CHINA: 1 ♀ juvenile (MNHN, holotype), "Flus Barchany nördlich von Borobalgassun, 12.09.1884, G.N. Potanin".

NOTES. The holotype of this species appears to be juvenile, hence this species, too, ought to be considered as a nomen dubium.

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